Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SUSAN A. VISSER,
and CHARLES E. HEWITT

Appeal No. 98-1865
Application No. 08/594,614

ON BRIEF

Before LIEBERMAN, TIMM and JEFFREY T. SMITH, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1 through 26, which are all the claims pending in this application.

THE INVENTION

The invention is directed to a fuser member comprising a layer of an addition crosslinked polyorganosiloxane and copper oxide particles. Other features of the claimed subject matter are set forth in the following illustrative claim.

THE CLAIM

Claims 1 is illustrative of appellants' invention and is reproduced below.

1. A fuser member having a layer comprising an addition crosslinked polyorganosiloxane elastomer, said layer having copper oxide particles dispersed therein in a concentration of from 5 to 40 volume percent of the total volume of said layer.

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references.

Nielsen et al.	(Nielsen)	4,807,341	Feb. 28, 1989
Hartley et al.	(Hartley)	4,853,737	Aug. 1, 1989
Fitzgerald et al. (Fitzgerald '740)		5,269,740	Dec. 14, 1993
Fratangelo et al. (Fratangelo)		5,370,931	Dec. 6, 1994
Fitzgerald et al. (Fitzgerald '725)		5,480,725	Jan. 2, 1996

THE REJECTION

Claims 1 through 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fratangelo and Fitzgerald '740 in view of Hartley, Fitzgerald '725, and Nielsen.

OPINION

We have carefully considered all of the arguments advanced by the appellants and the examiner and agree with the appellants that the rejection of claims 1 through 26 on the grounds of obviousness is not well founded. Accordingly, we reverse this rejection.

"[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a ***prima facie*** case of unpatentability," whether on the grounds of anticipation or obviousness. ***In re Oetiker***, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). On the record before us, the examiner relies upon a combination of five references to reject the claimed subject matter and establish a ***prima facie*** case of obviousness.

The Rejection under 35 U.S.C. Section 103(a)

The examiner's position, with respect to the aforementioned rejection, is premised on the view that, "[i]t would have been obvious to one of ordinary skill in the art to use copper oxide in the specifically claimed addition crosslinked polyorganosiloxane because of the suggestion of and the well known use of the prior art t each in fuser member applications and the expectation of similar results due to the known advantages of copper oxides and polyorganosiloxanes in fuser members." See Answer, page 4. We disagree.

We find that Fratangelo is directed to a fuser member comprising an alkene functional terminated polyorganosiloxane and a polymerization initiator. See column 6, lines 31-33. We further find that the fuser element contains about 1 to about 20 weight percent copper oxide. See column 2, lines 34-36. The examiner, affirmatively stated in the Answer that the range of copper oxide corresponds to the requirement of the claimed subject matter "of from 5 to 40 volume percent." In addition, to the extent that the weight percent of copper oxide disclosed by Fratangelo constitutes a finding by the examiner, Answer, page 3, the appellants have the absence of any contrary argument by the examiner that, "[t]he amount of copper oxide claimed (5 to 40 vol. %) is above the maximum amount mentioned by Fratangelo (20 weight % which is about 4 vol. %)." Brief, page 5. Accordingly, the disclosure of Fratangelo is insufficient in and of itself to establish a ***prima facie*** obviousness.

Fitzgerald '740 discloses a fuser roll comprising a condensation crosslinked polydimethyl siloxane polymer. See column 3, lines 30-37. The condensation reaction occurs between silanol terminated polydimethyl siloxane polymers and multi functional silanes. See column 3, lines 45-62. The silanes t have functional groups including acyloxy, alkenoxy, alkoxy, dialkylamino and alkyl iminoxy. See column 4, lines 15-18. The condensation crosslinked polydimethyl siloxane polymer has copper oxide particles present in a concentration of 25 to 40 percent by volume. See column 3, lines 30-37. In our view, however, the add copper oxide particles to a condensation polymer neither suggests nor motivates one of ordinary skill in the art to add the copper oxide particles to an addition crosslinked polyorganosiloxane elastomer.

Hartley discloses a cured fluoroelastomer having pendant polydiorganosiloxane units. See column 2, lines 1-7. The organosiloxane units are appended to the backbone during curing of the fluoroelastomer base which is dehydrofluorinated in order to provide for a reaction with a diorganosiloxane. See column 2, lines find that metal filled oxides may be present including copper oxide. See column 6, lines 44-49. However, the examiner has merely described the polymer of Hartley as a polyorganosiloxane. See Answer, pages 3 and 4. There is no finding that the polymer of Harley is an addition crosslinked polyorganosiloxane elastomer as claimed subject matter. Moreover, a cured fluoroelastomer having pendant polydiorgano siloxane segments covalently bonded to the backbone is not an addition crosslinked polyorganosiloxane, as the siloxane moiety is pendant from the polymeric chain and not in and of itself crosslinked.

Fitzgerald '725 discloses an addition crosslinked polyorganosiloxane elastomer containing tin oxide filler in an amount of 20 to 40 volume percent of the total volume of the layer. See column 3, lines 26-30. The addition crosslinked polymer is the same addition crosslinked polyorganosiloxane elastomer of the claimed matter. See column 4, line 60 - column 7, line 29. The filler particles utilized in the claimed subject matter are tin(IV) oxide. In a comparative example, the filler particles are aluminum oxide. See Examples 1 to 3 and comparative Example A. However, there is no suggestion to substitute copper oxide filler particles in plac tin oxide particles. Moreover, the other references of record fail to provide the requisite motivation to substitute copper oxide for tin oxide in the amount recited in the claim.

Finally, Nielsen discloses fusing rolls which comprise a crosslinked elastomeric siloxane and a free radical initiator. See column 2, lines 42-62. The siloxane polymers contain vinyl siloxane crosslinkable units. See column 3, lines 50-54. The vinyl siloxane units are crosslinked with a free radical initiator. See column 5, lines 39-45. Fillers may be present including silica, ferric oxide and alumina. See column 5, lines 1-18. There is no disclosure, however, of copper oxide being present as a filler and there is no reason given to substitute copper oxide for the metal oxides disclosed by Nielsen.

It is well settled that it is the examiner who has the burden of establishing that one of ordinary skill in the art would have found the requisite motivation and reasonable expectation of success for the proposed modification from the applied prior art teachings. *See* ***In re Vaeck***, 947 F.2d 488, 493, 20 USI 1438, 1442 (Fed. Cir. 1991); ***In re O'Farrell***, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). The record before has failed to provide the requisite motivation needed to combine the references in the manner suggested by the examiner.

Decision

The rejection of claims 1 through 26 under 35 U.S.C. § 103(a) as being unpatentable over Fratangelo and Fitzgerald '740 in view of Hartley, Fitzgerald '725, and Nielsen is reversed.

The decision of the examiner is reversed.

REVERSED

PAUL LIEBERMAN)
Administrative Patent Judge)
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CATHERINE TIMM) APPEALS
Administrative Patent Judge) AND
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